Application. Serial No. 10/747, 967
Response to the Office Action of January 24, 2008

Our File: 38898-0070 CCC

REMARKS

These remarks are filed in response to the Final Office Action of January 24, 2008, a response to which is due by April 24, 2008. Accordingly, the Applicant respectfully submits that no extension of time fees fall due in connection with the filing of this paper. If the Applicants are mistaken, the Commissioner is hereby authorized to deduct any necessary fees from our Deposit Account No. 13-2400.

The Applicant thanks the Examiner for the telephone interview of April 10, 2008 during which was discussed the rejection of claims 21 and 22 as software, *per se*. The Applicant argued that both pending claims were directed to a node and that a node was disclosed in the detailed description as being a provider edge device or a provider router. The Examiner indicated that the preamble was given no patentable weight. The Applicant argued that a forwarder, at least one of which is required for each claimed node, is known to be hardware and, in particular, is known generally to be implemented as an Application Specific Integrated Circuit. The Examiner indicated that, because a forwarder as described in either claim could be modeled in software, the claims were appropriately rejected under 35 U.S.C. § 101 as software, *per se*. No agreement was reached.

Claims 21 and 22 are pending in the present application.

The Examiner has rejected claims 21 and 22 under 35 U.S.C. §101 as being directed to non-statutory subject matter. In particular, the Examiner has indicated that the claims are directed to software, *per se*. The Applicant has previously submitted that the claims are directed to a "node" comprising at least one "forwarder" and are, therefore, directed to hardware. The Examiner has rebutted the Applicant's

submission by indicating that paragraph [0002] of the published application discusses that emulation can occur in hardware or software. The Examiner appears to have inappropriately associated "emulation" with the claimed intermediate nodes and, in particular, the at least one forwarder. The Applicant submits that there is no disclosure of "emulation" occurring at an intermediate node or, more particularly, at a forwarder of an intermediate node. Indeed, paragraph [0032] of the application discloses that emulation involves encapsulation ahead of transmission over a pseudo-wire. It follows that emulation, i.e., provision of a first service (say, layer-2 VPN) over a network of a second service (say, IP/MPLS), may be seen to occur only at the origin node (and perhaps at the termination node) of a pseudo-wire, that is, not at an intermediate node.

Further to the Examiner's indication that a forwarder as described in claims 21 or 22 could be modeled in software, the Applicant submits that modeling hardware in software does not make the hardware into software and that modeling does not duplicate the performance of the hardware.

When the Applicant argued, in the telephone interview of April 10, 2008, that the claims are not software because each of the claims is directed to a node, the Examiner indicated that the preamble was not given patentable weight in the 35 U.S.C. §101 assessment. The Applicant respectfully submits that the preamble should be given patentable weight in the 35 U.S.C. §101 assessment. For support of this submission, the Applicant cites a passage from M.P.E.P. 2111.02(I), "Any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation."

Application. Serial No. 10/747, 967
Response to the Office Action of January 24, 2008

Our File: 38898-0070 CCC

The Examiner has rejected claims 21 and 22 under 35 U.S.C. §102(e) as anticipated by US Patent Application No. 2004/0037279 to Zelig et al. (hereinafter "Zelig").

According to Chapter 2131 of the M.P.E.P., in order to anticipate a claim under 35 U.S.C § 102, "the reference must teach every element of the claim." Applicant submits that Zelig does not disclose each and every element recited in claims 21 and 22. Accordingly, Zelig cannot anticipate these claims. More specifically, The Applicant has previously submitted that the pseudo wires discussed in Zelig are point-to-point and "full mesh" (see paragraphs [0017], [0049], [0050], [0064]) and that multihop pseudo wires are not considered by Zelig. Further, the elements of the reference must be arranged as claimed. Anticipation is a strict standard and the Patent Office has not satisfied its burden in the present application.

The Examiner cites the forwarding engine 34 in FIG. 2 of Zelig as anticipating the forwarder of claim 21. Assuming that this was true, the virtual bridge 24 in FIGS. 1 and 2 of Zelig could be substituted for intermediate node 134 in FIG. 4 of the present application. The Applicant submits that the forwarding engine 34 of the virtual bridge 24 would merely terminate pseudo-wire segment 142. That is, the Applicant submits that the forwarding engine 34 of the virtual bridge 24 would not originate pseudo-wire segment 146, as required by claim 21. The Applicant also submits that Zelig provides no disclosure to suggest that the forwarding engine 34 of the virtual bridge 24 would appropriately interpret the description of the first pseudo-wire segment including, as a target, an attachment individual identifier.

Since, the Applicant submits, Zelig does not disclose or suggest

Application. Serial No. 10/747, 967
Response to the Office Action of January 24, 2008

Our File: 38898-0070 CCC

terminating a first segment of a multihop pseudo-wire and originating a second segment of the same multihop pseudo-wire as required by claim 21, then Zelig cannot anticipate an intermediate node in a multihop pseudo-wire having the functional limitations recited in claim 21. It is respectfully requested that the Examiner remove the rejection of claim 21 on the basis that claim 21 is anticipated by Zelig.

Claim 22 requires a first forwarder and a second forwarder. The Examiner indicates that "the figure has at least two routers, each of which has a first forwarder logic and second forwarder logic." (last sentence fragment of section 15.) It is unclear which figure in Zelig to which the Examiner is referring in the cited sentence fragment. FIG. 6 of Zelig illustrates three routers 96, but there is no disclosure of the routers having "a first forwarder logic and second forwarder logic." Furthermore, the virtual bridges 94 and the routers 96 are not disclosed as being connected by pseudo-wires. FIG. 1 of Zelig illustrates three virtual bridges 24, but the structure of a representative virtual bridge 24 illustrated in FIG. 2 only shows a single forwarding engine 34.

Since, the Applicant submits, Zelig does not disclose or suggest an intermediate node in a multihop pseudo-wire comprising a first forwarder for terminating a first pseudo-wire segment and a second forwarder for originating a second pseudo-wire segment as required by claim 22, then Zelig cannot anticipate a node having such a first forwarder and a second forwarder. It is respectfully requested that the Examiner remove the rejection of claim 22 on the basis that claim 22 is anticipated by Zelig.

The Examiner has also rejected claims 21 and 22 under 35 U.S.C. §102(b) as anticipated by US Patent 5,473,599 to Li, et al. (hereinafter "Li").

Application. Serial No. 10/747, 967
Response to the Office Action of January 24, 2008

Our File: 38898-0070 CCC

To reject claim 21, the Examiner has cited col. 8, line 19-23 of Li:

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It should also be recognized that the protocol of this invention can in some
circumstances be used to emulate virtual bridges (as opposed to virtual
routers). For example, SRB ("source routing bridging") is a protocol allowing
for multiple bridges operating in parallel.
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The Examiner has also cited col. 2, line 16-30 of Li:

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The present invention provides a system and protocol for routing data packets
from a host on a LAN through a virtual router. The host is configured so that
the packets it sends to destinations outside of its LAN are always addressed
to the virtual router. The virtual router may be any physical router elected
from among a "standby group" of routers connected to the LAN. The router from
the standby group that is currently emulating the virtual router is referred
to as the "active" router. Thus, packets addressed to the virtual router are
handled by the active router. A "standby" router, also from the group of
routers, backs up the active router so that if the active router becomes
inoperative, the standby router automatically begins emulating the virtual
router. This allows the host to always direct data packets to an operational
router without monitoring the routers of the network.
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The Applicant submits that the Examiner has not appropriately indicated where Li has disclosed or suggested a node comprising a forwarder for terminating a first _segment_ of a _multihop_ pseudo-wire as required by claim 21. Similarly, the Examiner has not appropriately indicated where Li has disclosed or suggested a node comprising a forwarder for originating a second _segment_ of a _multihop_ pseudo-wire as required by claim 21. It is respectfully requested that the Examiner remove the rejection of claim 21 on the basis that claim 21 is anticipated by Li.

To reject claim 22, the Examiner has cited col. 8, line 19-23 of Li (see above) and col. 2, line 16-30 of Li (see above).

The Applicant submits that the Examiner has not appropriately indicated where Li has disclosed or suggested a node comprising a first forwarder for _terminating_ a first _segment_ of a _multihop_ pseudo-wire as required by claim 22. Similarly, the Examiner has not appropriately indicated where Li has disclosed or suggested a node comprising a second forwarder for originating a second _segment_ of a _multihop_ pseudo-

Application. Serial No. 10/747, 967
Response to the Office Action of January 24, 2008

Our File: 38898-0070 CCC

wire as required by claim 22. It is respectfully requested that the Examiner remove the rejection of claim 22 on the basis that claim 22 is anticipated by Li.

In view of the foregoing, the applicant respectfully submits that claims 21 and 22 are in condition for allowance. Favourable consideration and allowance of claims 21 and 22 are respectfully requested. In the event that the Examiner does not agree that claims 21 and 22 are in condition for allowance, the Applicant reserves the right to file an appeal.

Respectfully Submitted,

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By: _____

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